

(b) optical head moving means, adapted to be arranged on one side of an optical disc loaded in said apparatus, for moving said optical head relative to the optical disc loaded in said apparatus to traverse a recording track thereof;

wherein said optical means comprises different effective numerical apertures which number is equal to or less than N, for converging the light flux on said information layer of corresponding one of said N types of optical discs and said optical means converges said light flux as a smaller spot diameter D by employing a larger one of said effective numerical apertures, with respect to one of said optical discs having a thinner one of said substrates,

wherein thicknesses of said transparent substrates of said N types of optical discs are substantially equal to or less than 1.2mm and said effective numerical apertures in said converging means are substantially equal to or larger than 0.45.

85. An optical recording/reproducing apparatus for recording, reproducing or erasing an information signal onto/from any one of N types (where $N \geq 2$) of optical discs having first layers of different thicknesses, each type of said optical discs having at least said first layer being transparent and a second layer for storing information, by converging a light flux onto said second layer through said first layer, said apparatus comprising:

(a) an optical head including (1) light emitting means for emitting said light flux, (2) optical means for converging said light flux onto said second layer, and (3) at least one photo detecting means for detecting reflected light from the optical disc; and

(b) optical head moving means, adapted to be arranged on one side of an optical disc loaded in said apparatus, for moving said optical head relative to the optical disc loaded in said apparatus to traverse a recording track thereof;

wherein said optical means comprises different effective numerical apertures which
number is equal to or less than N, for converging the light flux on said second layer of
corresponding one of said N types of optical discs and said optical means converges said light
flux as a smaller spot diameter D by employing a larger one of said effective numerical apertures,
with respect to one of said optical discs having a thinner one of said first layers, N numerical
apertures, with respect to one of said optical discs having a thinner one of said first layers,
wherein thicknesses of said first layers of said N types of optical discs are substantially
equal to or less than 1.2mm and said effective numerical apertures in said converging means are
substantially equal to or larger than 0.45.

IN THE SPECIFICATION

Sub 84
A2 Before the first line, insert --This is a continuation of reissue application Serial
No.08/396,981 filed March 1, 1995 which is a reissue of U.S. Patent No. 5,235,581.